



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.    | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|--------------------|-------------|----------------------|-------------------------|------------------|
| 10/635,958         | 08/07/2003  | Kouji Iwasaki        | S004-5088               | 1216             |
| 7590               | 09/21/2005  |                      |                         | EXAMINER         |
| ADAMS & WILKS      |             |                      | FERNANDEZ, KALIMAH      |                  |
| 31st FLoor         |             |                      | ART UNIT                | PAPER NUMBER     |
| 50 Broadway        |             |                      |                         | 2881             |
| New York, NY 10004 |             |                      | DATE MAILED: 09/21/2005 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/635,958             | IWASAKI, KOUJI      |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Kalimah Fernandez      | 2881                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 03 June 2005.

2a) This action is **FINAL**.                  2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-11 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-11 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. The invention recites the ability to tilt the sample, which essentially means rotating the sample through a range of angles. The specification describes rotating the sample through such angles in pg. 6, para. 2-3. It is unclear how a sample stage can tilt a sample without rotating the sample in a plane.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-8, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 6,118,122 issued to Koyama et al and in view of US Pat No 5,422,490 issued to Nakamura et al.
6. Koyama et al disclose a focusing charged particle beam device (col.1, lines 4-7).
7. Koyama et al disclose a charged particle source (9).
8. Koyama et al disclose a focusing lens system (2).
9. Koyama et al disclose a blanking electrode (3).
10. Koyama et al disclose a deflection electrode (8).
11. Koyama et al disclose a sample stage (15).
12. Koyama et al disclose a gas gun (13).
13. Koyama et al disclose a sample stage drive means comprises a mechanism capable of movement in three dimensions and capable of tilting in two axial directions (col.3, lines 3-8).
14. Koyama et al does not explicitly teach the tilting mechanism mounted below the movement mechanism.

15. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to arrange the tilting mechanism mounted below the movement mechanism , since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

16. Further, Nakamura et al teach the level of skill in the art. Nakamura et al illustrate a tilting mechanism mounted under a stage (see fig. 1).

17. Obvious motivation flows from the general knowledge in the art, wherein a tilting mechanism below the movement improves controllability.

18. As per claims 2 and 10, Koyama et al teach a focused ion beam (col.2, lines 28-29).

19. As per claims 3 and 11, Koyama et al teach means for storing processing correction (see col.4, lines 45-63).

20. As per claim 6, Koyama et al disclose a charged particle source (9).Koyama et al disclose a focusing lens system (2). Koyama et al disclose a sample stage (15). Koyama et al disclose also a sample stage drive means comprises a mechanism capable of movement in three dimensions and capable of tilting in two axial directions (col.3, lines 3-8).

21. Koyama et al does not explicitly teach the tilting mechanism mounted below the movement mechanism. However, it would have been obvious to an ordinary artisan at the time to arrange the tilting mechanism below the movement mechanism, since it falls within the level of ordinary skill and would obviously improve controllability.

22. As per claim 7, Koyama et al disclose also a sample stage drive means comprises a mechanism capable of movement in three dimensions and capable of tilting in two axial directions (col.3, lines 3-8).

23. As per claim 8, Koyama et al disclose a gas gun (13).

24. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama et al and Nakamura et al as applied to claims 1 and 6 above, and further in view of US Pat No 5,683,547 issued to Azuma et al.

25. The combined references: Koyama et al and Nakamura et al teach the claimed invention except for an electron beam as recited.

26. However, Azuma et al shows that electron beam is an equivalent source known in the art. Therefore, because these two sources were art-recognized equivalents at the time the invention was made, one of ordinary

skill in the art would have found it obvious to substitute an electron beam for an ion beam. See col. 1, lines 24-36.

***Response to Arguments***

27. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the

mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 571-272-2470. The examiner can normally be reached on Mon-Tues 6:30-3:30; Wed-Thurs 8-5 and Fri.9am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

kf